

Gateway2Earth/AmericaView

# OhioView Pilot and the LDCM

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*OhioView Consortium Director*

# The Problem

Lack of timely access to satellite and other geospatial information for education and research.

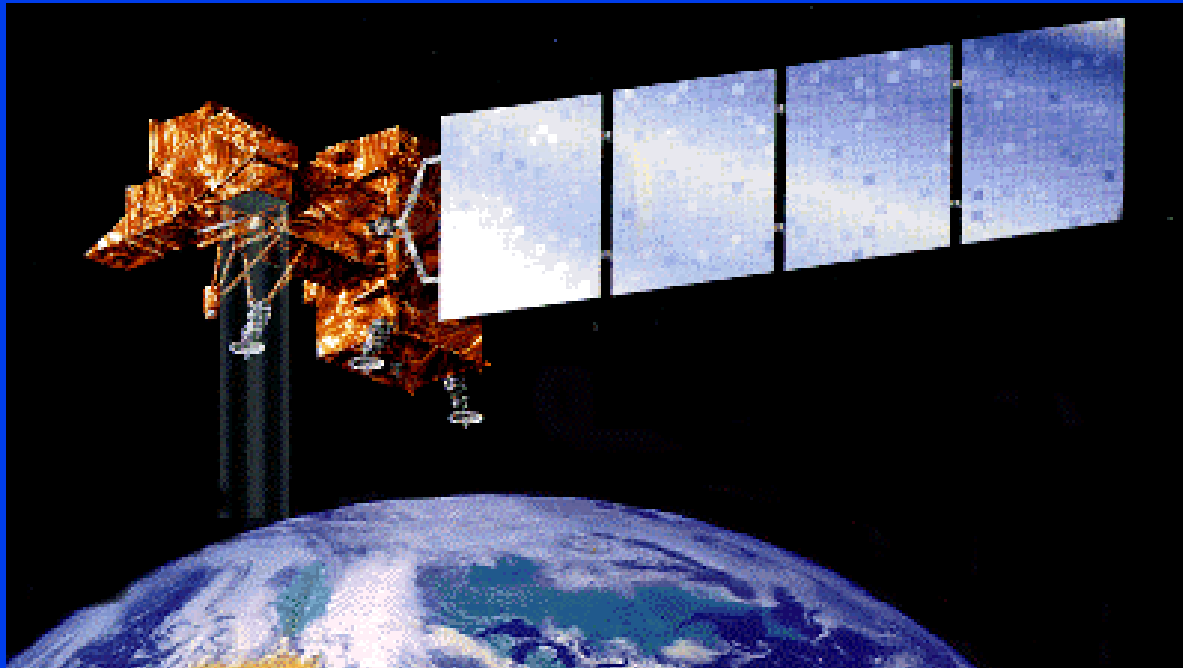
# Solution

- Form a public-private partnership.
- Prepare for educational and commercial systems.
- Both systems must provide
  - Commercial and Government Geospatial Data
  - Ultra-high bandwidth
  - Hybrid space and terrestrial network
  - 2-way, IP-based
  - Server- and Client-Side Processing

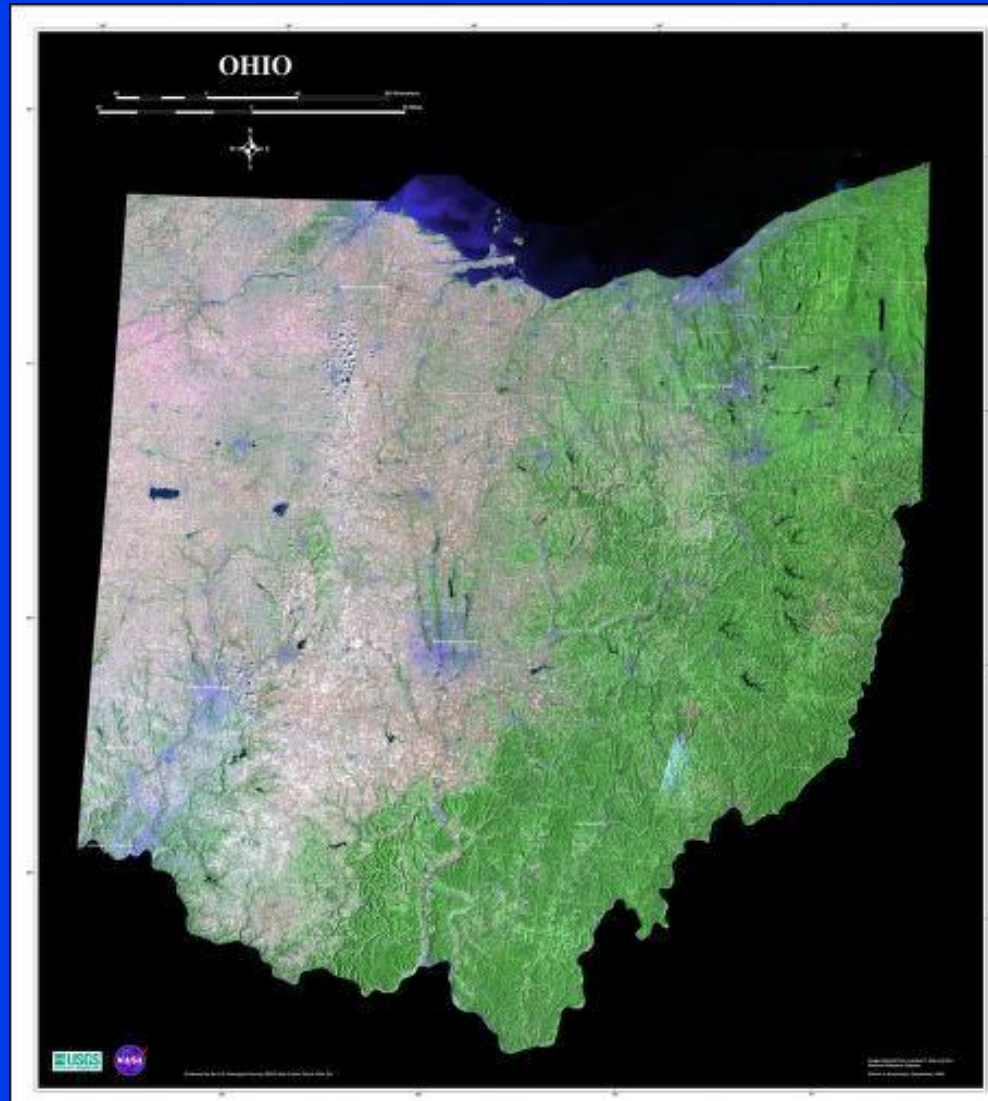
# The G2E/OhioView Pilot

G2E/OhioView is a consortium of universities, libraries, and state and local government agencies working with the USGS and NASA to provide affordable, integrated access to and delivery of satellite and other geospatial data for education and research.

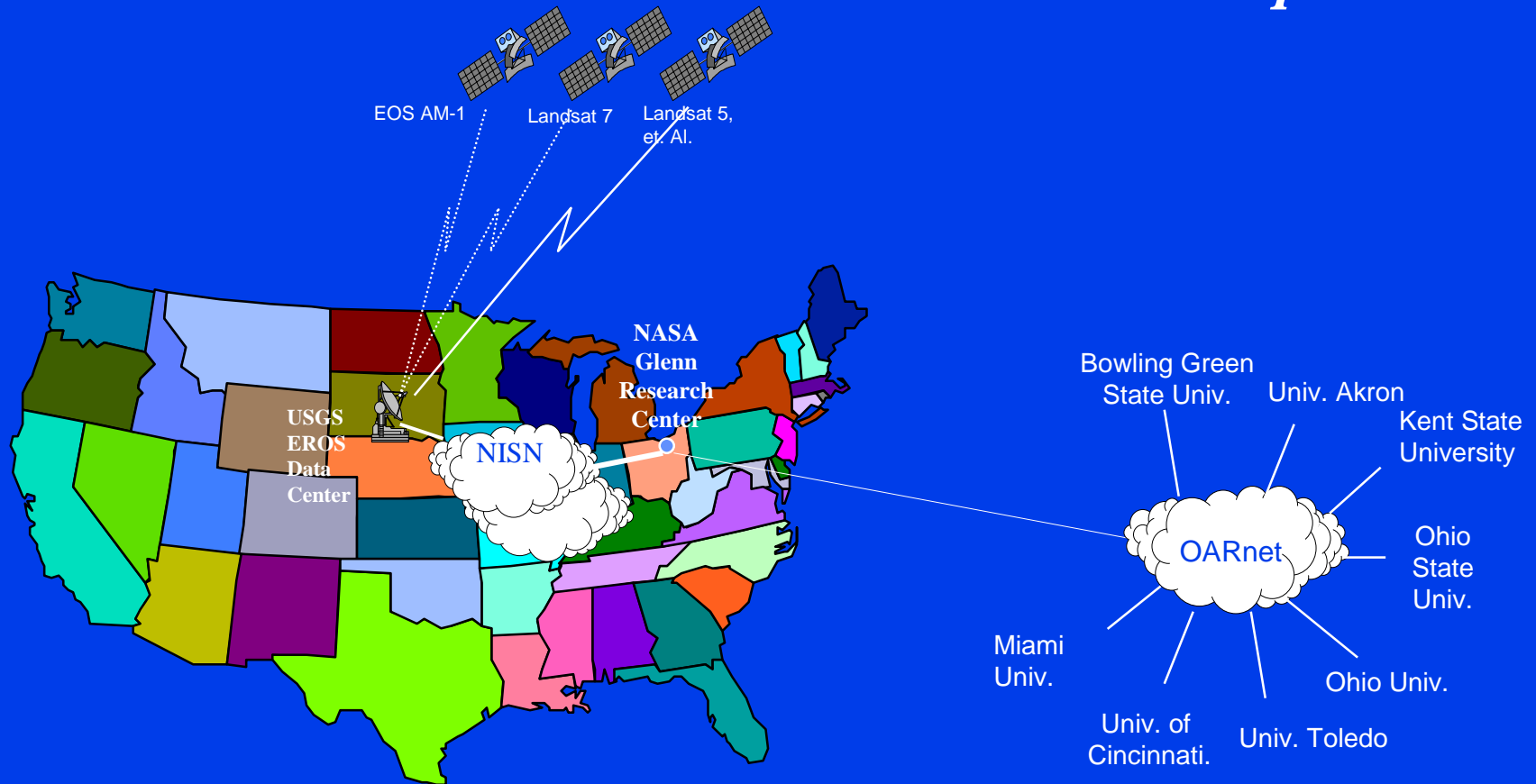
The Landsat program is the foundation of  
the OhioView Pilot



# G2E: OhioView Pilot 1999 Mosaic



# *G2E/OhioView Pilot Network Map*



# Successful Launch of Landsat-7

## April 15th, 1999





# Successful Launch of Terra

## December 18th, 1999



# FY2001 G2E/OhioView Consortia Partners

- OhioView Consortium
- Mississippi Space Commerce Initiative
- Texas Natural Resource Information System (TNRIS)
- National Interagency Fire Center (NIFC)
- California Land Science Information Project
- Leech Lake Tribal College
- Sinte Gleska University

# G2E/OhioView Data and Visualization Servers



# FY2002 G2E/AmericaView Consortia Partners

- 20 states
- 16 commercial partners
- 6 federal research laboratories
- Listed on
- <http://gateway2earth.org>

# G2E/OhioView K-12 Educational Applications


<http://www.kearfist.org/>

Students use images and digital topography to help them visualize a route to more fully understand historical events.

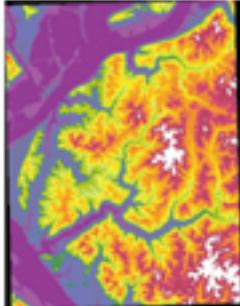
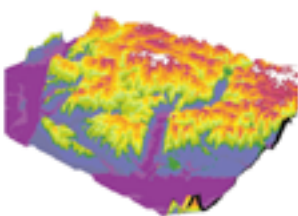
## Using Images and Maps to Visualize Time and Place

Northwest High School  
Grade 10-11


*Lawrenceburg topographic quadrangle.*




*Digital Elevation Map of Lawrenceburg quad.*

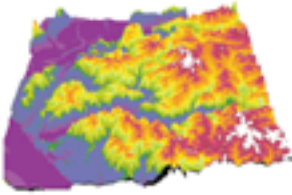
A 3 dimensional perspective view of the Lawrenceburg quadrangle. View from the southwest looking northeast. Use this image to help you visualize the importance of terrain in determining a route.




Enlargement of the area centered on the bridge over the Little Miami River.



Portion of the Oregonia topographic quadrangle showing present geography and terrain for use in exercise.



Three-dimensional perspective of the Lawrenceburg quadrangle looking from the south to the north.



LandSat TM 3/2/1 image of Oregonia area. Locate the bridge over the Little Miami River. The image helps you determine what the land cover is so that your route takes this into account.

### Preparation

On the Lawrenceburg images be able to locate the following:

- 1) rivers
- 2) lakes
- 3) roads
- 4) bridges
- 5) forests
- 6) farmland
- 7) valleys
- 8) cities

Be able to visualize the terrain.

### Activity

Locate your starting and ending points. Analyze the terrain to determine potential obstacles and areas difficult to traverse.

Determine the landcover from the satellite image.

Pick the most efficient route. Calculate the total distance covered.

Include a narrative, see your handout, describing what you encountered during your travels.

FaST: Fundamental through Application of Space Technologies



## *G2E/OhioView*



# Laboratory Materials

*Example: One half of  
U. Cincinnati's  
advanced remote  
sensing course is  
based on G2E/  
OhioView  
Landsat-7 data.*

# *Sediment Transport to and within Lake Erie*



# *G2E/OhioView Native American Remote Sensing Education and Research Project*



*Leech Lake Reservation, Chippewa Tribe,  
In Chippewa National Forest, Northern Minnesota*

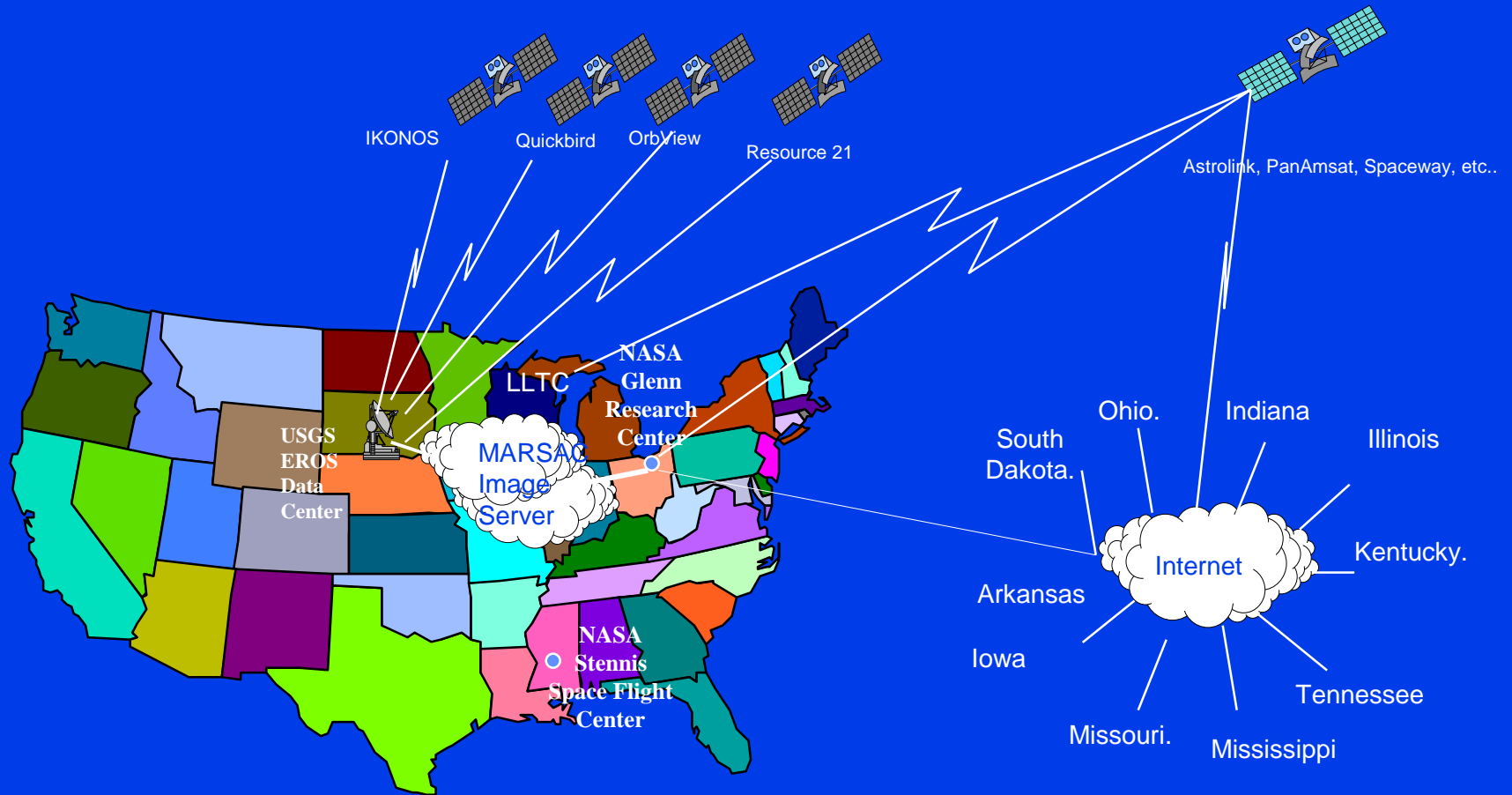


# *G2E/OhioView Native American Remote Sensing Education and Research Project*



*NASA Glenn's Advanced Communications Technology Satellite provides 2-way, high-bandwidth connectivity for education.*

# *LLTC Prototype Network*



# *Federal Satellite Data Policy and the LDCM*

Education and Research need a  
spectrum of government and  
commercial satellite data sources.

## *Federal Satellite Data Policy and the LDCM*

Need the USGS and NASA to expand  
licenses of sub-5 meter very  
high-resolution commercial data for  
education and research.

If paid for with public funds, these data  
should be licensed for the public  
domain after three years and should  
be priced (higher) accordingly.

# *Federal Satellite Data Policy and the LDCM*

Ikonos, Quickbird....  
(how about some more bands in the  
infrared???)

# *Federal Satellite Data Policy and the LDCM*

Need the USGS and NASA to  
purchase 5 meter  
high-spatial and spectral-resolution  
commercial data to compliment and  
improve its 1:24,000 scale public  
domain products.

This program should parallel the  
USGS DOQ program.

# *Federal Satellite Data Policy and the LDCM*

New satellites!

## *Federal Satellite Data Policy and the LDCM*

Need the USGS to continue the renaissance of remote sensing by operating a series of 30 meter MS 10 meter PAN Landsat follow-on satellites to provide affordable, hassle-free, entry-level satellite DATA. (not full resolution images) for education and research.



# *Federal Satellite Data Policy and the LDCM*

EO-1-like instrument???

# *Federal Satellite Data Policy and the LDCM*

The LDCM should include VAR funding for:

1. Annual national Landsat mosaics.
2. Annual global Landsat mosaics.
3. Migration of a globally consistent (same geometric, radiometric, map datum and map projection parameters) Landsat data set to USGS EDC after 3 years of commercial exploitation.

## *LDCM and Federal Policy*

However...

The LDCM should include on-line Landsat DATA access for .edu, .gov, .mil, .us which should be budgeted as part of the mission.

# *Federal Satellite Data Policy and the LDCM*

Because...

The phenomenal growth of GIS was fueled largely by the availability of affordable ENTRY-LEVEL government (especially USGS and Census) data.

The new USGS Landsat data policy is starting to do the same for REMOTE SENSING and should be continued.

## *Federal Satellite Data Policy and the LDCM*

This BALANCED policy provides:

1. Economic stimulus for commercial satellite DATA providers
2. Economic stimulus for the commercial remote sensing SOFTWARE industry.
3. Economic stimulus for remote sensing VARs.

## *Federal Satellite Data Policy and the LDCM*

4. High quality jobs for our students.
5. Affordable, timely, and scientifically useful data for education and research and governmental obligations.

# *Gateway to Earth's Location*

<http://gateway2earth.org>